91-01268/

Manitoba Agriculture

Information Update

GUIDELINES FOR ESTIMATING COW-CALF PRODUCTION COSTS BASED ON A 70 COW HERD

DATE: September, 1990

This guide is designed to provide planning information and a format for calculating costs of production on a start-up 70 cow-calf enterprise. **Also included is a 200 cow-calf ranch budget.** The production costs included in this enterprise budget are not intended as a cost study of the beef industry in Manitoba.

The budget estimates costs of production for 1990 based on a number of assumptions which are clearly defined in the supporting pages. Input costs are based on recommended practices and/or information obtained from producers. Good management is assumed in that a balanced ration is being fed, livestock are on a herd health program and handling facilities are included.

The guideline can be useful for comparison purposes. Comparison of costs at different levels of production can be made with other farms; the farm over time; or comparing the plan with the actual production at the end of the planning period. **Fixed costs are based on new costs.**

The budget may be adjusted by putting your figures in the appropriate column. Each cow-calf producer is encouraged to determine his own costs of production based on his own inputs, pasture program, and management.

MG-15396

COW-CALF PRODUCTION COSTS
(BASED ON A 70 COW HERD)

A. OPERATING COSTS	$/Cow/Year	Your Farm
1. Feed Costs:		
1.01 Grain	$ 6.75	
1.02 Hay	150.00	
1.03 Salt & Minerals	13.76	
Total Feed Cost	$170.51	
2. Other Operating Costs:		
2.01 Straw	15.00	
2.02 Vet. Medicine & Supplies	24.43	
2.03 Breeding Costs	19.20	
2.04 Fuel, Mtce. & Repairs	25.00	
2.05 Utilities	10.00	
2.06 Marketing & Transportation	3.14	
2.07 Death Loss	10.00	
2.08 Manure Removal	10.71	
2.09 Insurance	2.23	
2.10 Herd Replacement	52.50	
2.11 Miscellaneous	7.14	
2.12 Stabilization Premium	9.00	
Subtotal Operating Costs	358.86	
2.13 Operating Interest	25.12	
TOTAL OPERATING COSTS	**$383.98**	
B. FIXED COSTS		
3. Depreciation		
3.01 Buildings	$ 15.00	
3.02 Machinery & Equipment	28.29	
4. Investment		
4.01 Buildings	$ 15.00	
4.02 Machinery & Equipment	20.99	
4.03 Livestock	100.00	
4.04 Pasture (D. PFRA)	50.57	
TOTAL FIXED COSTS	**$229.85**	
TOTAL OPERATING AND FIXED COSTS	**$613.83**	
5. Labour	$ 86.40	
TOTAL COST OF PRODUCTION	**$700.23**	

Breakeven price/kg calf:		
A. Operating Costs	$1.74/kg (0.79/lb)	
B. Fixed Costs	$1.04/kg (0.47/lb)	
Labour Costs	$0.39/kg (0.18/lb)	
Total Breakeven Price	$3.17/kg (1.44/lb)	

Breakeven Price/kg = Cost ÷ 85% calf crop ÷ 260 kg (575 lb) calf weight

ASSUMPTIONS

1. This budget outlines the cost of production for a cow-calf operation with 70 cows, 2 bulls and 85% calf crop weaned.
2. Building and Equipment are valued at new cost.
3. All feed is valued at Fair Market Value.
4. Manure removal contracted out.
5. Replacement heifers are valued at fair market value.
6. This budget assumes an average weaning weight of 575 lbs. (steer calves 600 lbs. and heifer calves 550 lbs.)

WORKSHEET
COW-CALF PRODUCTION COSTS

A. OPERATING COSTS — Your Farm

1. Feed Costs:

1.01 Grain (includes processing)

	60 days/year	
x	1.36 kg barley/cow/day (3.0 lbs)	
x	$ 0.083 /kg barley* (3.75¢/lb or $1.80/bu)	
=	**$ 6.75 /cow**	

1.02 Hay

	3.0 tonnes alfalfa brome hay/cow	
x	$ 50.00 /tonne ($45/ton)	
=	**$150.00 /cow**	

1.03 Salt and Minerals

	16.0 kg salt/cow/year		
x	$ 0.26 /kg		
=	$ 4.16 /cow	a)	
	16.0 kg mineral/cow/year		
X	$ 0.60 /kg		
=	$ 9.60 /cow	b)	
=	**$ 13.76 Total Salt and Minerals**	(a + b)	

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* 1 bushel (bu) barley = 48 lbs = 21.8 kg
1 kilogram (kg) = 2.2046 pounds (lbs)
1 tonne (t) = 1,000 kg

2. **Other Operating Costs:** Your Farm

2.01 Straw

1.0 tonne straw/cow/year
x $ 15.00 /tonne
= **$ 15.00 /cow**

***2.02 Veterinary Medicine & Supplies**

a) Calf Medication

$ 0.59 /calf Blackleg (8 way vaccine)
\+ 0.37 ¢/calf IBR
= $ 0.96 /calf Total
x 85 % calf crop
= $ 0.82 /cow a)

b) Cow Medication

$ 2.34 /cow (IBR, BVD, PI_3 + BRSV)
3.20 /cow (scour vaccine admin. twice)
9.50 /cow (Ivomec - pour on)
0.53 /cow (ADE, 2 treatments)
= $ 15.57 b)

c) Herd Health Program

Professional Services:
$ 67.75/hr for 4 visits/year
(assume 1 visit @ 2 hours, include preg check and 3 visits @ 1 hour = 5 hours total)

$ 67.75 /hour
x 5 hours
= $338.75
÷ 70 cows
= $ 4.84 /cow c)

NOTE: Preg checking could cost up to - $3.25/cow, rather than an hourly rate.

d) Mileage

Assume that herd health charges include mileage; $0.70/km for an 80 km round trip.

$ 0.70 /km
x 80 km
x 4 visits
÷ 70 cows
= $ 3.20 /cow d)

$ 24.43 /cow Total Vet. Medicine & Supplies [Total of a) to d)]

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1 kilometre (km) = 0.62 miles
* These are maximum rates charged.

Your Farm

2.03 Breeding Costs

a) Feed For Bulls

	3	tonnes alfalfa brome hay	
x	$ 50.00	/tonne	
x	2	bulls	
÷	70	cows	
=	$ 4.29	/cow	
	3.6	/kg grain/day	
x	120	days	
x	$.083	/kg	
x	2	bulls	
÷	70	cows	
=	$ 1.02	/cow	
+	4.29	/cow	
=	$ 5.31	/cow Total Feed (Bulls Only)	a)

b) Straw for Bulls

	0.5	tonnes/bull	
x	$ 15.00	/tonne	
x	2	bulls	
÷	70	cows	
=	$ 0.21	/cow/year	b)

*c) Vet & Medicine for Bulls

	$ 26.00	/bull (Complete exam)	
+	51.00	(Semen test)	
x	2	bulls	
÷	70	cows	
=	$ 2.20	/cow/year	c)

d) Replacement of Bulls

	$ 2,000	/bull; original cost	
-	1,200	/bull; salvage value	
=	800		
÷	4	years of service	
=	$ 200	/bull; depreciation cost	
x	2	bulls	
÷	70	cows	
=	$ 5.71	/cow/year	d)

* These are maximum rates charged.

Your Farm

e) Investment in Bulls

$$\frac{\text{Original Cost} + \text{Salvage Value}}{2} \times \text{Interest Rate}$$

	$ 2000 /bull; original cost	
+	1200 /bull; salvage value	
=	3200	
÷	2	
=	$ 1600 /bull; average value	
x	10 % interest on investment	
=	$160.00 /bull; investment cost	
x	2 bulls	
÷	70 cows	
=	$ 4.57 /cow	e)

f) Buildings & Pasture Costs for Bulls

Assume the same pasture cost that P.F.R.A. charges for 1 cow without a calf

	$ 42.00 Pasture Cost	
x	2 bulls	
÷	70 cows	
=	$ 1.20 /cow/year	f)

$ 19.20 /cow Total Breeding Cost (a to f)

g) Other Breeding Alternatives

a) Artificial Insemination - may be another option; $10 to $20 per cow or heifer.

b) P.F.R.A. Community Pasture - breeding fees of $28 per cow or heifer.

2.04 Fuel, Maintenance & Repairs

a) Machinery

	$ 500.00 fuel cost	
	500.00 maintenance & repairs	
÷	70 cows	
	$ 14.29 /cow	

Your Farm

b) Buildings, yard fences and waters

	$750.00	_____
÷	70.00	_____
	$ 10.71	_____

= **$ 25.00 /cow, fuel, maintenance & repair** _____

2.05 Utilities

	$ 700	total cost _____
÷	70	cows _____
=	**$ 10.00**	**/cow/year** _____

2.06 Marketing & Transportation

a) Trucking (15% culled)

	10	cull cows	_____
x	1100	lbs/cow	_____
x	$ 1.25	/cwt (trucking cost)	_____
÷	100		_____
÷	70	cows	_____
=	$ 1.96	/cow	a) _____

b) Selling Commission

	10	cull cows	_____
x	1100	lbs/cow	_____
x	$ 50.00	/cwt, selling value	_____
÷	100		_____
x	1.5	% commission on sales	_____
÷	70	cows	_____
=	$ 1.18	/cow	b) _____

= **$ 3.14 /cow Total Mktg. & Trans.** (a + b) _____

2.07 Death Loss

	70	cows	_____
x	1	% death loss	_____
x	$1000	/cow	_____
÷	70	cows	_____
=	**$ 10.00**	**/cow**	_____

Your Farm

2.08 Manure Removal

Budget assumed a custom charge of $1500, once every 2 years. It was estimated that it would take two men with a crawler and one truck two days to clean the lots and pole barns. (Value of manure was not taken into account)

	$1500	annual cost for removal
÷	2	
÷	70	cows
= $	10.71	/cow

2.09 Insurance Cost

	$ 21,000	building investment
x	0.60	cost/$100 capital
+ $	30.00	liability insurance
÷	70.00	cows
= $	2.23	/cow

2.10 Herd Replacement (15% culled)

	$ 900.00	/replacement bred heifer
- $	550.00	/cull cow
= $	350.00	
x	15 %	replacement rate
= $	52.50	/cow

2.11 Miscellaneous

(Includes expenses relating to farm records, administration, office supplies & telephone)

	$ 500.00	total cost
÷	70	cows
= $	7.14	/cow

2.12 Cow Calf Stabilization Premium

$ 9.00 /cow

2.13 Operating Interest

(Operating interest is charged on one half of the subtotal operating costs)

	$ 358.86	Subtotal operating costs
÷	2	
x	14 %	operating interest rate
= $	25.12	/cow

Your Farm

B. FIXED COSTS

3. Depreciation:

$$\frac{\text{Original Cost - Salvage Value}}{\text{Useful Life}}$$

3.01 Buildings:

$ 3,000	Bull Yard & Calving Pens	
13,500	Main Wintering Lot & Pole Barn	
1,500	Well	
3,000	Handling Facilities	
= $ 21,000		
- 0	Salvage Value	
= $ 21,000		
÷ 20	years useful life	
÷ 70	cows	
= $ 15.00	/cow	

3.02 Machinery & Equipment

a) Water System and Feed Bunks

$3,000	Original Value	
- 0	Salvage Value	
= 3,000		
÷ 10	years useful life	
÷ 70	cows	
= $ 4.29	/cow	a)

b) Tractor and Loader

$ 40,000	Original Value	
X 40	% usage in Cow-Calf Enterprise	
= $ 16,000	Portion for Cow-Calf Enterprise	
- 20	% Salvage Value	
= $ 12,800		
÷ 10	years useful life	
÷ 70	cows	
= $ 18.29	/cow	b)

Your Farm

c) Miscellaneous Machinery
(Post auger and driver, wagon and other miscellaneous tools along with a portion of half-ton truck)

	$ 6,000	Original Value	
-	20	% Salvage Value	
=	4,800		
÷	12	years life expectancy	
÷	70	cows	
=	$ 5.71	/cow	c)

$ 28.29 /cow Total Mach. & Equip. (a+b+c)

4. Investment:

$$\frac{\text{Original Cost} + \text{Salvage Value}}{2} \times \text{Interest Rate}$$

4.01 Buildings

	$ 3,000	Bull Yard & Calving Pens	
	13,500	Main Wintering Lot & Pole Barn	
	1,500	Well	
	3,000	Handling Facilities	
=	$ 21,000		
+	0	Salvage Value	
=	$ 21,000		
÷	2		
x	10	% investment interest rate	
÷	70	cows	
=	$ 15.00	/cow	

4.02 Machinery & Equipment

a) Water System and Feed Bunks

	$ 3,000	Original Value	
+	0	Salvage Value	
=	$ 3,000		
÷	2		
x	10	% investment interest rate	
÷	70	cows	
=	$ 2.14	/cow	a)

Your Farm

b) Tractor and Loader

	$ 40,000 Original Value	
x	40 %	
=	$ 16,000 Portion for Cow-Calf Enterprise	
+	20 % Salvage Value	
=	$ 19,200	
÷	2	
x	10 %	
÷	70 cows	
=	$ 13.71 /cow	b)

c) Miscellaneous Machinery

	$ 6,000 Original Value	
+	20 % Salvage Value	
=	$ 7,200	
÷	2	
X	10 % investment rate	
÷	70 cows	
=	$ 5.14 /cow	c)

= $ 20.99 Total Mach. & Equip. Deprec, (a+b+c)

4.03 Livestock

	$ 1,000 /cow	
x	10 % investment rate	
=	**$ 100.00 /cow**	

4.04 Pasture Costs

Budget examined four different pasture programs with varying land values and carrying capacities. Choose the one that applies to your farm. Cattle were pastured for 150 days.

A. MARGINAL LAND: Land values at $247/hectare ($100/acre) with carrying capacity of 3.2 hectares (7.9 acres) per cow. Property taxes are $1/hectare ($0.40/acre).

Land Investment Cost:

	3.2 hectares/cow	
x	$247.00 /hectare	
x	10 % investment rate	
=	$ 79.04 /cow	

		Your Farm
Taxes		
	$ 1.00 /hectare	
x	3.2 hectares/cow	
=	$ 3.20 /cow	
	$ 82.24 /Cow Total Pasture Cost of Marginal Land	

B. **CROP LAND:** Land valued at $800 per hectare ($325/acre) with a carrying capacity of 1.2 hectares (3 acres) per cow. Property taxes are $10/hectare ($4.05/acre).

Land Investment Cost:

	1.2 hectares/cow	
x	$800.00 /hectare	
x	10 % investment rate	
=	$ 96.00 /cow	

Taxes

	$10.00 /hectares	
x	1.2 hectares/cow	
=	$12.00 /cow	
	$108.00 /Cow Total Pasture Cost of Crop Land	

C. **CROWN LAND:** Crown land pasture cost is based on crown rental rate of $180/quarter which includes property tax. Carrying capacity is estimated at 10 cows per quarter. Fence cost at $8,400.00

Depreciation on fence

	$ 8400 fence cost	
-	1400 salvage value	
÷	20 useful life	
÷	70 /cows	
=	$ 5.00 /cow	

			Your Farm
Fence Investment Cost:			
	$ 8400	fence cost	_____
+	1400	salvage value	_____
÷	2		_____
x	10	% investment rate	_____
÷	70	cows	_____
=	$ 7.00	/cow	_____
Land Rental (includes taxes)			
	70	cows	_____
÷	10	cows/quarter	_____
=	7.00	quarters	_____
x	$ 180.00	/quarter, rental rate	_____
=	$1260.00		_____
÷	70	cows	_____
=	$ 18.00	/cow/year	_____
	$ 30.00	/Cow Total Pasture Cost of Crown Land	_____

1 quarter section = 65 hectares = 160 acres

D. P.F.R.A.: Community pasture grazing fee is estimated at $0.28/cow/day plus $10/calf/season. Season is 150 days.

D1 Cows

	$ 0.28 /cow/day	_____
x	150 days	_____
=	$42.00 /cow	

D2 Calves

	70 cows	_____
X	85 % calf crop	_____
=	60 calves	_____
X	$10 /calf/season	_____
=	$600	_____
÷	70 cows	_____
=	$8.57 /cow/year	_____
	$50.57 Total P.F.R.A. Cost	_____

5. **Labour** (includes winter feeding period, inspecting, calving and maintenance and repair labour to fences and buildings)

	9 hours/cow/year	_____
x	$ 9.60 /hour	_____
=	**$ 86.40 /cow**	_____

FOR MORE INFORMATION SEE YOUR LOCAL MANITOBA AGRICULTURE OFFICE.

Budget
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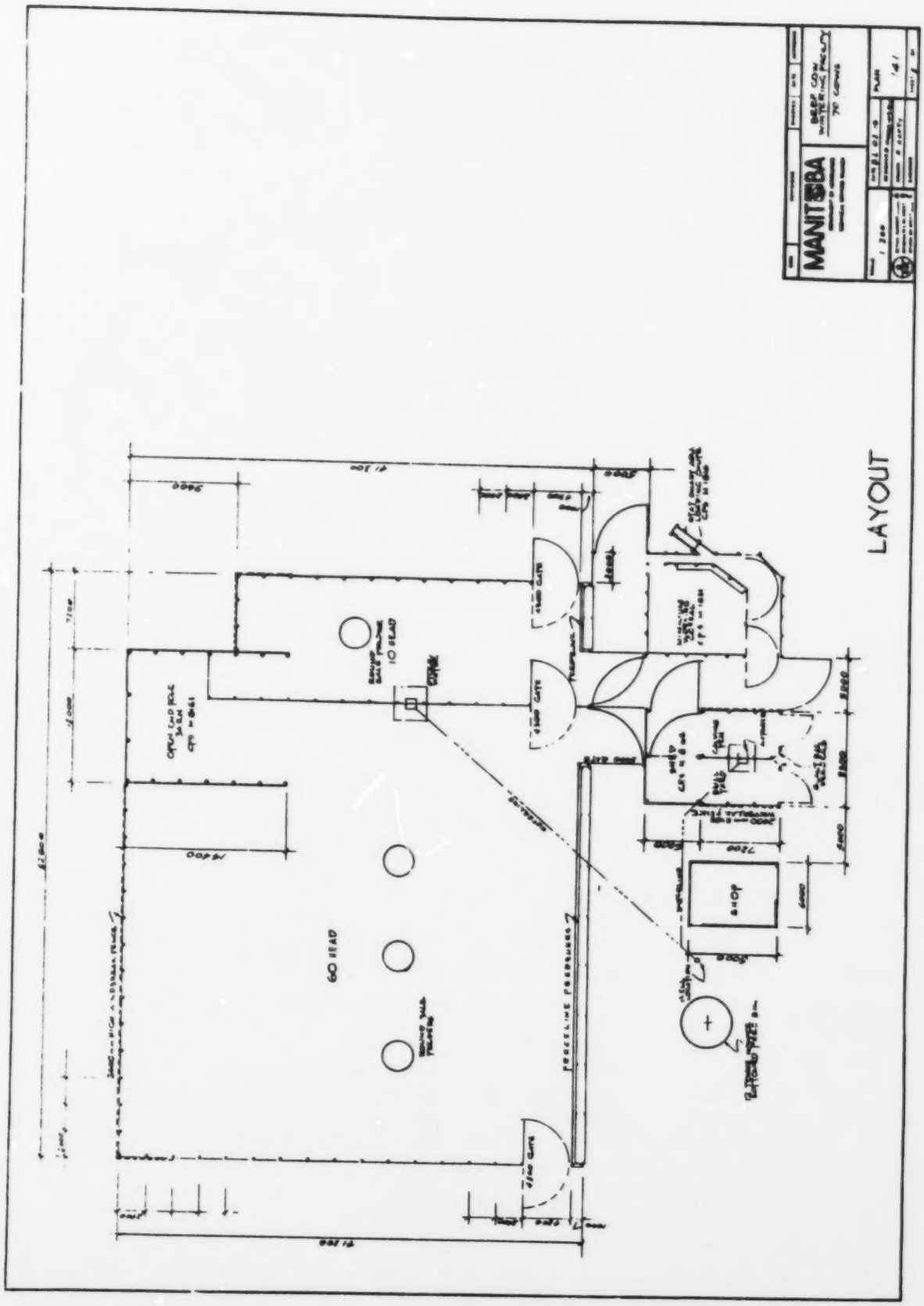
COW CALF RANCH BUDGET
(BASED ON 200 COW HERD)

		$/Cow/Year	Your Farm
A.	**OPERATING COSTS**		
1.	Feed Costs:		
	1.01 Grain	$ 6.75	
	1.02 Hay	150.00	
	1.03 Salt & Minerals	13.76	
	Total Feed Cost	$170.51	
2.	Other Operating Costs:		
	2.01 Straw	15.00	
	2.02 Medicine & Supplies	13.95	
	2.03 Breeding Costs	19.20	
	2.04 Fuel, Mtce. & Repairs	25.00	
	2.05 Utilities	10.00	
	2.06 Marketing & Transportation	3.14	
	2.07 Death Loss	10.00	
	2.08 Manure Removal	7.50	
	2.09 Insurance	.78	
	2.10 Herd Replacement	52.50	
	2.11 Miscellaneous	7.14	
	2.12 Cow-Calf Stabilization	9.00	
	Subtotal Operating Costs	343.72	
	2.13 Operating Interest	$ 24.06	
	TOTAL OPERATING COSTS	367.78	
B.	**FIXED COSTS**		
3.	Depreciation		
	3.01 Buildings	$ 5.25	
	3.02 Machinery & Equipment	23.50	
4.	Investment		
	4.01 Buildings	$ 5.25	
	4.02 Machinery & Equipment	12.55	
	4.03 Livestock	100.00	
	4.04 Pasture (C. Crown Land)	30.00	
		$176.55	
	TOTAL OPERATING AND FIXED COSTS	$544.33	
5.	Labour	$ 86.40	
	TOTAL COST OF PRODUCTION	$630.73	
	Breakeven price/kg calf:		
	Operating Costs	$1.66/kg (0.75/lb)	
	Fixed Costs	$0.80/kg (0.36/lb)	
	Labour Costs	$0.39/kg (0.18/lb)	
		$2.85/kg (1.29/lb)	

Breakeven Price/kg = Cost ÷ 85% calf crop ÷ 260 kg (575 lb) calf weight


MANITOBA
LAYOUT
60 HEAD
10 HEAD
SHOP